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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/048,082	01/24/2002	Faiz Feisal Sherman	7691	1652

27752 7590 12/11/2003

THE PROCTER & GAMBLE COMPANY  
INTELLECTUAL PROPERTY DIVISION  
WINTON HILL TECHNICAL CENTER - BOX 161  
6110 CENTER HILL AVENUE  
CINCINNATI, OH 45224

EXAMINER

FOX, JOHN C

ART UNIT PAPER NUMBER

3753

DATE MAILED: 12/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/048082

Applicant(s)

Examiner

fx

Group Art Unit

3753

--The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address--

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- ☒ Responsive to communication(s) filed on 9-24-03
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 1-29 is/are pending in the application.
- Of the above claim(s) 2-10, 19, 25-29 is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1, 11-18, 20-24 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_
- ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other \_\_\_\_\_

Office Action Summary

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This action is responsive to the communication filed September 24, 2003.

Claims 26-29 are withdrawn from further consideration by the examiner, 37 C.F.R. § 1.142(b), as being drawn to a non-elected inventions, the requirement having been traversed in Paper No. 5.

Claims 2-10, 19 and 25 are withdrawn from further consideration by the examiner, 37 C.F.R. § 1.142(b), as being drawn to a non-elected species, the requirement having been traversed in Paper No. 5. Although applicant listed claims 2-5 and 25 as reading on the elected species, the biasing means are disclosed as alternative embodiments to what is shown in the elected Figures 16-17. Although applicant listed claims 8-10 as reading on the elected species, these claims depend from nonelected claim 6 and cannot so read.

Applicant's election with traverse of Group I and Species D in Paper No. 5 is acknowledged. The traversal is on the ground(s) that the PCT Examination did not find a lack of unity of invention, that there is no undue

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burden on the Examiner to examine three inventions, and that the groups are not independent. This is not found persuasive.

Unity of invention is present under the PCT rules only if the commonly recited technical features are special, that is allowable. That is not the case here.

The examination of an application involves more than just the search. Each claim being examined must be read and understood, reviewed for compliance with §112, first and second paragraphs and compared to the Prior Art. Potentially, for each claim being examined grounds of rejection must be stated and explained, each argument against such rejections must be read and understood and answered, any amendments or new claims re-searched, grounds of rejection again stated and explained, amendments after final read and answered, an appeal brief read and understood, an Examiner's answer prepared, and a reply brief read and answered. It should be readily apparent that examining one set of claims drawn to one invention is less of a burden than examining three sets of claims drawn to three patentably distinct inventions.

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The MPEP says "independent or distinct". The reasons why the Groups are distinct were given in the restriction requirement.

The requirement is still deemed proper and is therefore made FINAL.

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 1, 15-18 and 21-24 are rejected under 35 U.S.C. § 103 as being unpatentable over Gschwendtner et al (US 5,400,824, of record) in view of Schumm, Jr. (US 5,837,394, of record). Gschwendtner et al teach a microvalve having a fixed body 21 with openings 24, a shutter 11 with

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openings 14, and electrostatic finger drives 31. Gschwendtner et al does not teach latching the valve. Schumm, Jr. shows another microvalve having plural openings on the fixed and movable members and teaches latching the slide in both the open and closed position, see Figure 8, column 7, line 66 to column 8, line 13, and claim 7. Figure 8 shows two cutouts in the movable element forming an "ear". It would have been obvious for one of ordinary skill in the art to have provided such a latch for the valve of Gschwendtner et al to similarly retain the valve in each of its positions. Claim 5 of Schumm, Jr. Claim 5 of Schumm, Jr. discloses that the actuators are powered to move and then the power is removed, suggesting the latches hold the valve in position. Moving the latches out of engagement prior to actuating the valve is considered to be an obvious step in the use of the proposed combination. Using latches biased to their engaged positions so power is used only when actuating the valve is considered to be an obvious step in the use of the proposed combination in view of the recognized need to manage power consumption. As to claim 17, the Gschwendtner et al valve is manufactured with a slight gap

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between the fixed and movable members, see column 5, lines 56+, which would inherently allow a slight leak through the valve. It is considered to be an obvious matter of design choice to use the valve without compensating for the gap in an application where a leak is acceptable.

Claims 11-14 and 20 are rejected under 35 U.S.C. § 103 as being unpatentable over Gschwendtner et al in view of Schumm, Jr. and further in view of Dhuler et al and Clark. Dhuler et al teach a microvalve with an embodiment in Figure 18 that has two openings 172a and a reciprocating actuator. In Figures 20-21 an alternative embodiment is shown where the openings 172a are arranged in a circular pattern and the movable member is rotated, to provide for an increased fluid flow. Clark shows a similar valve where the rotary member is formed as a frame 1 with openings 6, allowing the valve to close faster, *i. e.* with less actuator travel. It would have been obvious for one of ordinary skill in the art to have configured the valve of Gschwendtner et al, as modified, as a circular frame which is rotated to similarly provide for a greater flow rate. It is noted that Dhuler et al provides latches for their microactuators so the

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power to the microactuators do not need to be powered continuously, and the valves can be biased open or closed.

Any inquiry concerning this communication should be directed to Examiner Fox at (703) 308-2595 or John.Fox@uspto.gov. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0861. The fax number for TC 3700 is 703-872-9302. For responses after final the fax number is 703-872-9303. The Supervisory Primary Examiner for Art Unit 3753 is John Rivell who can be reached at (703) 308-2599 or at John.Rivell@uspto.gov.

  
JOHN FOX  
PRIMARY EXAMINER  
ART UNIT 3753

jcf  
December 8, 2003